

What is claimed is:

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1. An apparatus for filling a cartridge having at least two compartments for storing fluid, comprising:

at least one reservoir of fluid;

at least two metering pumps connected to the at least one reservoir of fluid; and

at least two filling tubes connected to the at least two metering pumps, respectively; wherein each filling tube simultaneously fills one of the at least two compartments in the cartridge with the fluid.

2. The apparatus of claim 1 wherein the cartridge has at least three compartments for storing fluid, the apparatus further comprising at least three metering pumps connected to the at least one reservoir of fluid, and at least three filling tubes connected to the at least three metering pumps, respectively; wherein each filling tube simultaneously fills one of the at least three compartments in the cartridge with the fluid.

3. The apparatus of claim 1 wherein the cartridge has at least four compartments for storing fluid, the apparatus further comprising at least four metering pumps connected to the at least one reservoir of fluid, and at least four filling tubes connected to the at least

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four metering pumps, respectively; wherein each filling tube simultaneously fills one of the at least four compartments in the cartridge with the fluid.

4. The apparatus of claim 1 wherein the cartridge is substantially cylindrical and defines an eccentric through hole therein, the apparatus further comprising a puck which defines a substantially cylindrical cavity and a pin eccentrically disposed in the substantially cylindrical cavity whereby the cartridge may be inserted in the cavity in the puck and aligned by insertion of the pin of the puck in the eccentric through hole of the cartridge.

4/ 5. The apparatus of claim 4 further comprising a plate; at least two nozzles connected to the at least two filling tubes, respectively; the at least two nozzles being mounted in the plate; and means for reciprocating the plate such that the at least two nozzles can be inserted into and removed from the at least two compartments of the cartridge.

5/ 6. The apparatus of claim 4 further comprising a plate; at least two nozzles connected to the at least two filling tubes, respectively; the at least two nozzles being mounted in the plate; and a reciprocating carrier connected to the plate such that the at least two nozzles can be inserted into and removed from the at least two compartments of the cartridge.

substantially cylindrical cavity whereby the cartridge may be inserted in the cavity in the puck and aligned by insertion of the pin of the puck in the eccentric through hole of the cartridge.

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11. The apparatus of claim 10 further comprising a plate; first, second, third and fourth nozzles connected to the first, second, third and fourth filling tubes, respectively; the first, second, third and fourth nozzles being mounted in the plate; and means for reciprocating the plate such that the first, second, third and fourth nozzles can be inserted into and removed from the first, second, third and fourth compartments of the cartridge.

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12. The apparatus of claim 10 further comprising a plate; first, second, third and fourth nozzles connected to the first, second, third and fourth filling tubes, respectively; the first, second, third and fourth nozzles being mounted in the plate; and a reciprocating carrier connected to the plate such that the first, second, third and fourth nozzles can be inserted into and removed from the first, second, third and fourth compartments of the cartridge.

13. A method of filling a cartridge having at least two compartments for storing fluid, comprising:

placing the cartridge under at least two nozzles;

16. The method of claim 15 further comprising, before the placing step, the step of loading the cartridge in a puck and aligning the cartridge by inserting a pin of the puck in an eccentric through hole in the cartridge.

17. The method of claim ¹⁶~~15~~ wherein the first, second, third and fourth fluids are a same fluid.

18. The method of claim ¹⁶~~15~~ wherein the first and second fluids are a same fluid and the third and fourth fluids are a same fluid different from the first and second fluids.

19. The method of claim ¹⁶~~15~~ wherein the first, second and third fluids are a same fluid and the fourth fluid is a different fluid.

20. An apparatus for sealing a cartridge having at least two compartments wherein the cartridge is substantially cylindrical and defines an eccentric through hole therein, comprising:

a puck which includes a substantially cylindrical cavity and a pin eccentrically disposed in the substantially cylindrical cavity, whereby the cartridge may be inserted in the cavity in the puck and aligned by insertion of the pin in the eccentric through hole;

a screw which engages the puck and thereby positions the cartridge for sealing;
and

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7. An apparatus for filling a cartridge having first and second compartments for storing fluid, comprising:

first and second reservoirs containing first and second fluids, respectively;

first and second metering pumps connected to the first and second reservoirs, respectively;

first and second filling tubes connected to the first and second metering pumps, respectively; wherein the first and second filling tubes simultaneously fill the first and second compartments in the cartridge with the first and second fluids, respectively.

8. An apparatus for filling a cartridge having first, second and third compartments for storing fluid, comprising:

first, second and third reservoirs containing first, second and third fluids, respectively;

first, second and third metering pumps connected to the first, second and third reservoirs, respectively;

first, second and third filling tubes connected to the first, second and third metering pumps, respectively;

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wherein the first, second and third filling tubes simultaneously fill the first, second and third compartments in the cartridge with the first, second and third fluids, respectively.

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9. An apparatus for filling a cartridge having first, second, third and fourth compartments for storing fluid, comprising:

first, second, third and fourth reservoirs containing first, second, third and fourth fluids, respectively;

first, second, third and fourth metering pumps connected to the first, second, third and fourth reservoirs, respectively;

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first, second, third and fourth filling tubes connected to the first, second, third and fourth metering pumps, respectively;

wherein the first, second, third and fourth filling tubes simultaneously fill the first, second, third and fourth compartments in the cartridge with the first, second, third and fourth fluids, respectively.

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10. The apparatus of claim 9 wherein the cartridge is substantially cylindrical and defines an eccentric through hole therein, the apparatus further comprising a puck which defines a substantially cylindrical cavity and a pin eccentrically disposed in the

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removing the at least two nozzles from the at least two compartments.

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a sealer for sealing the cartridge.

21. The apparatus of claim 20 wherein the sealer has a flat heating head.

22. A method of sealing a cartridge having at least two compartments wherein the cartridge is substantially cylindrical and defines an eccentric through hole therein, comprising:

loading the cartridge in a puck and aligning the cartridge by inserting a pin of the puck in the eccentric through hole in the cartridge;

engaging the puck with a screw to position the cartridge for sealing; and

sealing the cartridge.

23. The method of claim 22 wherein the sealing is performed with a flat heating head.

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